

when multiplied by the low mileage emission rate equal the emission rate at the end of useful life. However, if the deterioration factor supplied by the manufacturer is less than one, it shall be one for the purposes of this section.

(c) *Rounding.* (1) In the case of a multiplicative exhaust emission deterioration factor, round the factor to three places to the right of the decimal point.

(2) In the case of an additive exhaust emission deterioration factor, round the factor shall to at least two places to the right of the decimal point.

(d)(1) Except as allowed by paragraph (d)(2) of this section, the manufacturer shall determine the deterioration factors for Category 1 and Category 2 engines based on service accumulation and related testing, according to the manufacturer's procedures, and the provisions of §§94.219 and 94.220. The manufacturer shall determine the form and extent of this service accumulation, consistent with good engineering practice, and shall describe this process in the application for certification.

(2) *Alternatives to service accumulation and testing for the determination of a deterioration factor.* A written explanation of the appropriateness of using an alternative must be included in the application for certification.

(i) *Carryover and carryacross of durability emission data.* In lieu of testing an emission data or durability data engine selected under §94.217 or §94.219, and submitting the resulting data, a manufacturer may, with Administrator approval, use exhaust emission deterioration data on a similar engine for which certification to the same standard has previously been obtained or for which all applicable data required under this subpart have previously been submitted. These data must be submitted in the application for certification.

(ii) *Use of non-marine deterioration data.* In the case where a manufacturer produces a certified motor vehicle engine, locomotive engine, or other nonroad engine that is similar to the marine engine to be certified, deterioration data from the non-marine engine may be applied to the marine engine. This application of deterioration data from such an engine to a marine engine is subject to Administrator ap-

proval, and the determination of whether the engines are similar shall be based on good engineering judgment.

(iii) *Engineering analysis for established technologies.* In the case where an engine family uses technology which is well established, an analysis based on good engineering practices may be used in lieu of testing to determine a deterioration factor for that engine family. Engines using exhaust gas recirculation or aftertreatment are excluded from this provision. The manufacturer shall provide a written statement to the Administrator that all data, analyses, test procedures, evaluations, and other documents, on which the deterioration factor is based, are available to the Administrator upon request.

(iv) *Assigned deterioration factors.* Small-volume manufacturers may use deterioration factors established by EPA.

[64 FR 73331, Dec. 29, 1999, as amended at 67 FR 68346, Nov. 8, 2002; 68 FR 9786, Feb. 28, 2003]

§ 94.219 Durability data engine selection.

(a) For Category 1 and Category 2 engines, the manufacturer shall select for durability testing, from each engine family, the engine configuration which is expected to generate the highest level of exhaust emission deterioration on engines in use, considering all exhaust emission constituents and the range of installation options available to vessel builders. The manufacturer shall use good engineering judgment in making this selection.

(b) Carryover data satisfying the provisions of §94.220 may also be used in lieu of testing the configuration selected in paragraph (a) of this section.

(c) Durability data engines shall be built from subsystems and components that are representative of actual production engines.

[64 FR 73331, Dec. 29, 1999, as amended at 68 FR 9786, Feb. 28, 2003]

§ 94.220 Service accumulation.

(a) Each test emission data engine in the test fleet may be operated with all emission control systems operating properly for a period, up to 125 hours of